

CLAIMS

Claim 1 (currently amended): A method of forming a polymeric component, comprising:

~~providing a primary extrusion in a solid state;~~

heating a polymeric compound and forcing the heated compound through an orifice to form a heated extrusion;

cooling the heated extrusion to form a primary extrusion in a solid state;

zone heating at least one portion of the primary extrusion to create a molten zone within the at least one portion, leaving surrounding portions of the primary extrusion in a solid state;

aligning the at least one molten zone with a corresponding die cavity of the section mold in preparation of compressing the molten zone; and

compressing the at least one portion between a pressing unit and a die cavity until the at least one portion takes the shape of the pressing unit and die cavity and forms a solid state section molded feature integral with the primary extrusion.

Claim 2 (original): The method of claim 1 the step of providing a primary extrusion, further comprising:

heating a polymeric compound and forcing the heated compound through an orifice to form a heated extrusion; and

cooling the heated extrusion to form a primary extrusion in a solid state.

Claim 3 (original): The method of claim 1 further comprising:

aligning the zone heating and compression steps in an off-line operation; and
forming the section molded portion in the off-line operation.

Claim 4 (original): The method of claim 2 further comprising:

aligning the heating, cooling, zone heating and compressing steps in an in-line operation; and

forming the polymeric component in the in-line operation.

Claim 5 (original) The method of claim 1 the step of zone heating at least one portion, further comprising:

applying zone heating of the type selected from the group consisting of: convection heating, radiant heating, conduction heating, infrared heating, and induction heating.

Claim 6 (original): The method of claim 1 further comprising:

providing a section mold unit having at least one pressing unit and at least one die cavity for forming a section molded feature integral to the primary extrusion; and

aligning the at least one molten zone with a corresponding die cavity of the section mold in preparation of compressing the molten zone.

Claim 7 (original): The method of claim 6, further comprising:

providing the die cavity to be comprised of a split die having a combined shape corresponding to the outer shape of a barbed projection to be section molded from the primary extrusion, and providing the pressing unit to be comprised of an upper mandrel having a shape corresponding to the inner shape of the barbed projection; and

raising the mandrel and separating the split die to release the polymeric component.

Claim 8 (original): The method of claim 1, further comprising:

clamping the solid state portion of the primary extrusion to stabilize the primary extrusion prior to compressing the molten zone.

Claim 9 (original): The method of claim 1 the step of zone heating at least one portion, including:

simultaneously zone heating a plurality of portions along the length of the primary extrusion to simultaneously create a plurality of molten zones, leaving the surrounding portions of the primary extrusion in a solid state;

providing a section mold having a plurality of die cavities and pressing units; and aligning each portion having a molten zone with a corresponding die cavity of the section mold.

Claim 10 (original): The method of claim 6, further comprising:

providing a section mold unit having a plurality of identical die cavities and pressing units.

Claim 11 (original): The method of claim 6, further comprising:

providing a section mold unit having a plurality of die cavities and pressing units and wherein at least one die cavity and pressing unit define a section mold feature shape different from at least one other die cavity and pressing unit.

Claim 12 (previously presented): The method of claim 1 the step of zone heating at least one portion, including:

zone heating a first portion of the primary extrusion to create a molten zone within the first portion, while leaving the remaining portion of the primary extrusion in a solid state;

providing a section mold having a die cavity and pressing unit, the die cavity and pressing unit;

aligning the molten zone of the first portion with the die cavity;

compressing the first portion between the pressing unit and die cavity until the first portion takes the shape defined by the die cavity and pressing unit and forms a solid state integral with the primary extrusion;

advancing the primary extrusion;

zone heating, after compressing the first portion, a second portion of the primary extrusion to create a molten zone within the second portion, leaving the surrounding portion of the primary extrusion in a solid state;

aligning the molten zone of the second portion with the die cavity; and

compressing, after compressing the first portion, the second portion between the pressing unit and the die cavity until the second portion takes the shape defined by the die cavity and pressing unit and forms a solid state integral with the primary extrusion.

Claims 13-20 (cancelled):

Claim 21 (previously presented): A method as in claim 1 wherein the step of zone heating is accomplished with a zone heating unit and the step of compressing is accomplished with a section mold unit and the zone heating unit is separate from the section mold unit.

Claim 22 (previously presented): A method as in claim 21 wherein, after zone heating, the primary extrusion is advanced from the zone heating unit to the section mold unit and the molten zone is aligned between a pressing unit and a die cavity of the section mold unit.

Claim 23 (previously presented): A method of forming a polymeric component, comprising:

providing a primary extrusion in a solid state, the primary extrusion formed of a polymeric material;

zone heating at least one portion of the primary extrusion to create a molten zone of the polymeric material within the at least one portion, leaving surrounding portions of the polymeric material of the primary extrusion in a solid state; and

compressing the molten zone, after formation thereof, between a pressing unit and a die cavity until the molten zone takes the shape of the pressing unit and die

cavity and forms a solid state section molded feature integral with the primary extrusion.

Claim 24 (previously presented): A method as in claim 23 wherein the molten zone is created by a heating element that is separate from the pressing unit and die cavity.

Claim 25 (previously presented): A method as in claim 23 wherein the pressing unit, the die cavity or both are at a temperature below the temperature of the molten zone during the step of compressing the molten zone.

Claim 26 (previously presented): A method as in claim 24 wherein the pressing unit, the die cavity or both are at a temperature below the temperature of the molten zone during the step of compressing the molten zone and the step of zone heating is accomplished with a zone heating unit and the step of compressing is accomplished with a section mold unit and the zone heating unit is separate from the section mold unit.

Claim 27 (previously presented): A method as in claim 26 wherein, after zone heating, the primary extrusion is advanced from the zone heating unit to the section mold unit and the molten zone is aligned between a pressing unit and a die cavity of the section mold unit.

Claim 28 (previously presented): The method of claim 27 the step of providing a primary extrusion, further comprising:

heating a polymeric compound and forcing the heated compound through an orifice to form a heated extrusion; and

cooling the heated extrusion to form a primary extrusion in a solid state;

aligning the heating, cooling, zone heating and compressing steps in an in-line operation; and

forming the polymeric component in the in-line operation;
wherein the molten zone is created by locating a heating element within close proximity of a surface of the primary extrusion.